

## Fishfinder 90/140

*full feature sonar*



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## INTRODUCTION

This manual covers the features and operation of the Fishfinder 90/140.

### About This Manual

To get the most out of your Fishfinder 90/140, take time to read this manual and learn the operating procedures for your unit in detail. This manual is organized into the following sections.

The **Introduction** sections contains the Table of Contents, Product Registration, and Product Support Information.

The **Getting Started** sections contain information about sonar and the Fishfinder.

The **Installing Your Fishfinder** section provides instruction on installing the Fishfinder and the Transducer. If you experience difficulty installing the Fishfinder, contact Garmin Product Support or an installation professional in your area.

The **Operating Your Fishfinder** section describes the features and operation of the Fishfinder 90/140.

The **Appendix** contains unit specifications ,optional accessories, and care information. You can also find warranty information, the Software License Agreement and European Licensing Requirements in the Appendix.

An **Index** is provided at the end of the manual for reference.

### Manual Conventions

This manual uses the term **Warning** to indicate a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

This manual uses the term **Caution** to indicate a potentially hazardous situation, which, if not avoided, may result in minor injury or property damage. It may also be used without the symbol to alert you to avoid unsafe practices.

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## Product Registration

Help us better support you by completing our online registration today! Connect to our Web site at [www.garmin.com/registration/](http://www.garmin.com/registration/).

Use this area to record the serial number (8-digit number located on the back of the Fishfinder 90/140) in case your Fishfinder 90/140 needs service. Keep the original sales receipt, or a photocopy, in a safe place.

Serial Number:   \_\_   \_\_   \_\_   \_\_   \_\_   \_\_   \_\_   \_\_

## Contact Garmin

Contact Garmin if you have any questions while using your Fishfinder 90/140. In the USA contact Garmin Product Support by phone: 800/800.1020 or 913/397.8200, Monday–Friday, 8 AM–5 PM Central Time; or go to [www.garmin.com/support/](http://www.garmin.com/support/), and click **Product Support**.

In Europe, contact Garmin (Europe) Ltd. at +44 -1794-519944 (outside the UK) or 0870-8501242 (UK only).



## Warning

**Failure to avoid the following potentially hazardous situations could result in an accident or collision resulting in death or serious injury.**

When navigating, carefully compare information displayed on the Fishfinder 90/140 to all available navigation sources, including information from visual sightings, and maps. For safety, always resolve any discrepancies or questions before continuing navigation.

**WARNING:** This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our Web site at <http://www.garmin.com/prop65>.

## GETTING STARTED

To get the most out of your new Fishfinder:

- Before you install and use your Fishfinder, read the information in this manual.
- Assemble and install the hardware (page 5).
- Practice using your Fishfinder in Simulator Mode (page 4).
- Use the Fishfinder (page 13).

## Understanding the Fishfinder

The Fishfinder 90 or 140 is a fully automatic sonar unit that allows you to go out on the water and find fish without having to configure a lot of settings; or, if from experience you know exactly how you want your Fishfinder screen to look and function, you can customize each setting to your specific needs.

If you have used a Fishfinder before, and you know how to interpret the sonar information on the screen, you can skip this section. If you have not used a Fishfinder before,

you might want to learn a bit about sonar: what it is, how it works, and what you might see on the Fishfinder 90 or 140 screen. This manual does not go into technical detail about sonar, but it can give you a general understanding of those things that you need to know about sonar that can help you interpret the screen and find the fish.

### ***Understanding Sonar***

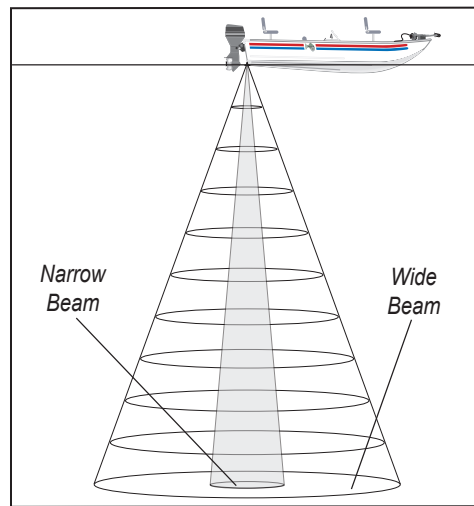
During installation, you connect your Fishfinder 90 or 140 to a transducer. The transducer uses sound to determine information about what is in the water beneath your boat. Then the transducer sends the information to your Fishfinder to be displayed on the screen for you to view and interpret.

The transducer sends sound waves down into the water in a cone shape, similar to a flashlight beam (covering a smaller circular area at the top and angling out to a larger circular area at the bottom). These sound waves reflect off of any object that they hit, and then the waves travel back up to the transducer. These objects could be fish, branches, the bottom, or any other object that has density that is different from the water. The transducer receives the sound

wave information, and then sends the information to the Fishfinder. The Fishfinder displays the information on the screen for you to see and interpret. The type of transducer and settings you choose determine how the information is shown on the screen.

### ***Understanding Dual Beam Transducer Coverage***

A dual beam transducer can transmit a narrow or a wide beam. The water area covered by the transmitted sound waves is determined by the beam width of the transducer and the water depth. The narrow beam provides crisp detail of what is under your boat, and is helpful if you are fishing in deeper water where the beam covers more area (for example, at a 30-foot depth, the narrow beam covers the area of about a 7-foot circle).



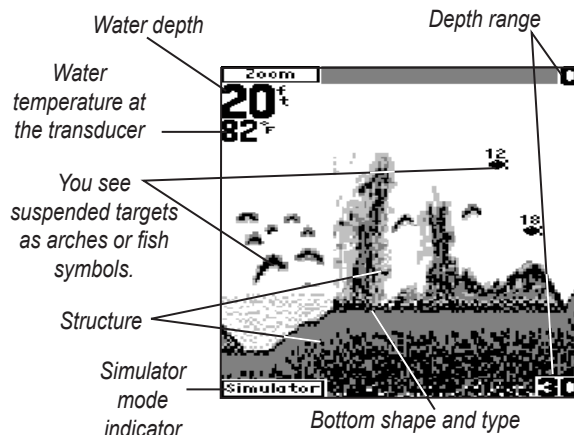
The wide beam is more helpful in shallow water, because it gives you a much wider view of objects in the water, including areas beyond the sides of your boat. At a 30-foot depth, the wide beam covers the area of approximately a 20-foot circle.



## Understanding the Fishfinder Screen

Experimentation and experience are the keys to successfully interpreting your Fishfinder screen. We recommend that you take your Fishfinder out on familiar water, and spend time learning to interpret what you see on the Fishfinder 90 or 140 screen.

Think of the Fishfinder screen as if you took a picture from the side of an aquarium in your home. You can see how deep a fish is in the water (how close it is to the top or bottom), but you cannot tell where the fish is located horizontally in the water (whether it is near the front or the back of the aquarium). Remember this when you are trying to locate exactly where something is in the water.



The strongest sonar returns appear on your screen as solid, dark areas. The weakest returns appear less intense, less solid. The bottom of the water body returns the strongest signal, so you can identify the bottom as the continuous, solid line running across the bottom of the screen. The strength of the sonar return can also help you interpret the hardness of the bottom. The thicker the bottom line, the harder the bottom.

The Fishfinder 90 and 140 include the latest technology in interpreting bottom signals; they can see through fish, structures, and thermoclines (shown in the weakest hues). Even so, large schools of fish or dense structures close to the bottom can affect water depth return readings.



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**NOTE:** If the Fishfinder is unable to track the bottom for any reason, the digits which indicate depth flash on and off to alert you that the Fishfinder is not tracking the bottom.

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Along the top of the screen, you might see a grouping of intense hues. This area is surface clutter, which can be caused by waves or any other sonar interference at the surface of the water. Too much surface clutter can obscure your view of fish. You can turn down the Gain setting to reduce this surface clutter (Page 14).

You can see in the previous illustration how the fish are indicated in a few different ways. By default, fish appear as arches. Actual fish returns might not always appear as perfect arches, due to the speed, fish orientation, or other conditions. You can also turn on the Fish Symbols setting if

you want to see suspended targets indicated by a fish shape instead of arches (Page 16).

## Using Simulator Mode

Use Simulator Mode to practice and learn the operation of the Fishfinder. If the Fishfinder does not detect a transducer at startup, it automatically starts in Simulator Mode.

While in Simulator Mode, the Fishfinder displays a bottom scene, and you can control the Fishfinder (except the Gain and Auto Gain options) just as if it were on the water. If no keys are pressed for two minutes, the Fishfinder automatically resets to default settings while in Simulator Mode.

To exit Simulator Mode, turn off the Fishfinder.

# INSTALLING YOUR FISHFINDER

Make sure you completely read and understand all instructions before you install and use your Fishfinder. If you have problems, contact Garmin Product Support, or seek other professional assistance.

You can install the Fishfinder hardware on a transom or on a trolling motor. Before installation, make sure the wiring harness can reach the Fishfinder and transducer locations.

Check the packing list below. If you are missing any items, contact your Garmin dealer.

## Packing List (one of each, unless otherwise noted):

**A**—Fishfinder sonar unit

**B1**—Swivel mount bracket (Fishfinder 140; optional for Fishfinder 90); or

**B2**—Tilt mount bracket (Fishfinder 90)

**C**—Swivel base (Fishfinder 140)

**D**—Mounting knobs

**E**—Mounting knob spacer

**F**—Snap ring

**G**—Transducer with power cable

**H**—Transducer mount

**I**—Trolling motor mount gasket

**J**—5 mm Flat washers (2)

**K**—5 x 30 mm Screws (2)

**L**—10-32 Lock nut

**M**—4 x 12 mm Screws (4)

**N**—10-32 x 1.75 Screw

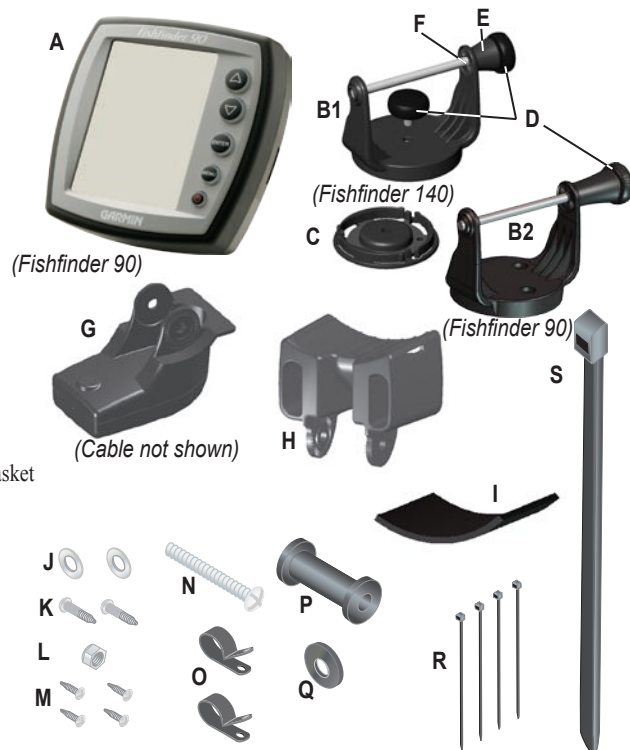
**O**—1/4" Cable clamps (2)

**P**—Plastic spacer

**Q**—1/4" Rubber washer

**R**—Cable tie, 5.6" (4)

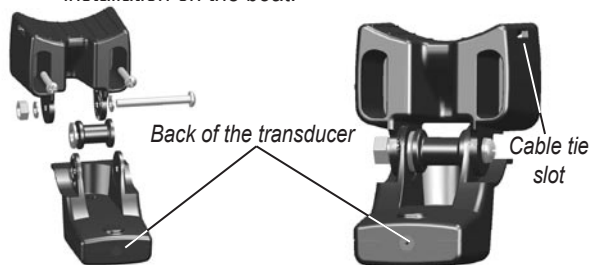
**S**—Cable tie, 20"



## Installing the Transducer

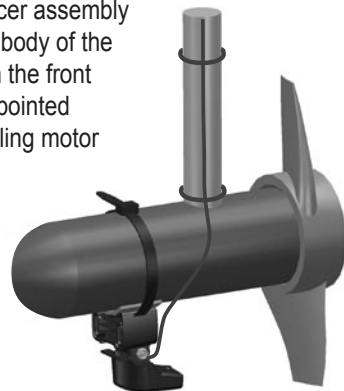
### Assembling the Transducer

1. Insert the rubber washer (Q) and plastic spacer (P) into the transducer (G) at the same time. DO NOT lubricate the rubber washer.
2. Route the cable toward the back of the transducer. Slide the transducer into the transducer mount (H).
3. Place a 5 mm flat washer (J) on the 10-32 x 1.75" screw (N), and insert the screw through the transducer mount, spacer, and rubber washer.
4. Place the remaining 5 mm flat washer on the exposed end. Install the 10-32 lock nut (L) finger tight. You can tighten the transducer further after installation on the boat.



### Mounting the Transducer on a Trolling Motor

1. Slide the large cable tie (S) through the slot on the transducer mount (H) with the ridges of the band facing up until equal lengths extend on both sides of the mount. (**NOTE:** For cold water, or heavy timber or debris areas, a metal 4-5" worm gear clamp is recommended.)
2. Position the mount gasket (I) on the curved top of the transducer mount.
3. Place the transducer assembly against the motor body of the trolling motor, with the front of the transducer pointed away from the trolling motor propeller.



4. Wrap the two ends of the cable tie around the motor body. Place the pointed end of the cable tie through the fastener hole on the opposite end and pull it through until it is snug but not tight. (The cable tie clicks when you pull it.)
5. Position the transducer so that it is parallel with the bottom when in use, and make sure the gasket is aligned properly. Pull the cable tie end until tight. Trim off the excess, if necessary. Tighten the 10-32 locking nut until it touches the mounting bracket and then tighten 1/4 turn more. (Do not overtighten.)
6. Route the 20' (6 m) transducer cable using the supplied cable ties to secure the cable to the motor shaft. You can fill the forward-facing portion (except the cable tie pocket) of the transducer mount with sealant to avoid accumulating debris.

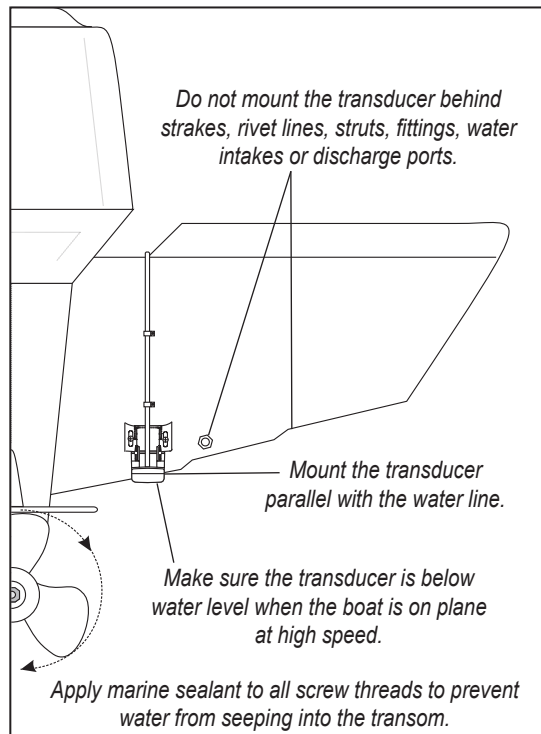
### ***Mounting the Transducer on a Transom***

**Tool List** (not included)—drill, 3/8" wrench or socket, 5/32" and 1/8" drill bits, masking tape, #2 Phillips screwdriver, and marine sealant.

When selecting a transom mount location, consider the following for optimal performance:

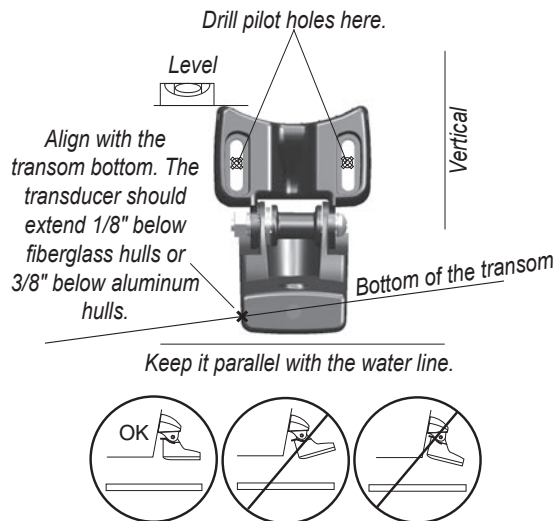
- For your sonar to operate properly, the transducer must be located in calm water. DO NOT mount the transducer behind strakes, rivet lines, struts, fittings, water intake, discharge ports, eroding paint, or anything that creates turbulence.
- Mount the transducer as close to the center of the boat as possible.
- DO NOT cut the transducer lead. (This voids your warranty.)
- DO NOT mount the transducer in locations where it might be jarred when launching, hauling, trailering, or storage.

- DO NOT mount the transducer in the path of the prop on single-drive boats. The transducer can cause cavitation that can degrade the boat's performance and damage the prop. On twin-drive boats, mount the transducer between the drives, if possible.



**To mount the transducer on a transom:**

1. Position the transducer mount at the selected transom location. Make sure the transducer is parallel with the water line. Mark the center locations of each hole on the transducer mount. (See the figures on the next page.)
2. Using a 5/32" bit, drill the pilot holes approximately 1" (25 mm) deep at the marked locations. To avoid drilling the holes too deep, wrap a piece of tape around the bit at 1" from the point of the bit.
3. Apply marine sealant to the 5 x 30 mm screws. Attach the transducer assembly to the transom using the 5 x 30 mm screws. Adjust the transducer assembly to extend beyond the bottom of the transom approximately 1/8" (3 mm) on fiberglass hulls or 3/8" (10 mm) on aluminum hulls. Adjust the transducer assembly to be aligned parallel with the water.
4. Tighten the 10-32 locking nut until it touches the mounting bracket, and then tighten 1/4 turn more. (Do not overtighten.)
5. Place the first cable clamp on the transducer cable approximately one third of the distance between the transducer and the top of the transom. Mark the location. Using a 1/8" bit, drill a pilot hole approximately 3/8" (10 mm) deep.
6. Attach the cable clamp using a 4 x 12 mm screw. Coat the screw with marine sealant before installation. Repeat steps 5 and 6 using the other cable clamp.
7. Route the transducer cable, as needed, to the Fishfinder. **DO NOT CUT THE CABLE.** Avoid routing the cable with electrical wires or other sources of electrical interference.



## Installing the Fishfinder Unit

### Selecting a Fishfinder installation Location

Select a Fishfinder installation location that allows you to view and operate it easily while operating the vessel. Select a mounting surface strong enough to support the weight of the Fishfinder and protect it from excessive vibration or shock. **DO NOT** mount the bracket in a location where the Fishfinder is exposed to extreme temperature conditions. When installing the mounting bracket, be sure to allow room to connect and rout the power cable.

### Mounting the Bracket Assembly

**Tool List (not included)**—drill, screwdriver (Phillips or standard), three #8 pan-head machine bolts with matching nuts and washers, and a 5/32" drill bit; or three #8 pan-head, self-tapping screws and a 1/16" drill bit.